

REMARKS

Applicant thanks the Examiner for the very thorough consideration given the present application. Claims 1-28 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-3, 20-22 and 26-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitener (U.S. Pat. No. 4,036,455) in view of Scherer (U.S. Pat. No. 3,488,020). This rejection is respectfully traversed.

Whitener '455 is generally directed to a method for handling cargo for an air-cargo liner. Whitener '455 generally discloses a fuselage, wings extending on opposite sides of the fuselage, a plurality of cylindrical cargo hold tubes uniformly located within the wings, in which special techniques are required to load cargo into the tubes and remove cargo from such tubes.

In contrast, relative to independent Claim 1, Applicant respectfully submits that Whitener '455 is not directed to a central storage cavity as claimed in the present invention. In the present invention, a central storage cavity (element 28) extending throughout the fuselage and a pair of wing storage cavities (element 64 and 66) for additional cargo storage are both claimed (Figures 1, 2, and 4). Whitener '455 provides storage in the wings, but appears to lack the central storage cavity as provided in the claimed invention.

In addition, Whitener '455 is not directed to a moderate aspect ratio of at least 3.5. The Examiner asserts that Whitener '455 discloses a moderate aspect ratio

(Column 8, lines 1-3). However, as noted on Col. 7, line 65 to Col. 8, lines 1-3, Whitener '455 does not appear to suggest such a feature. The claimed aspect ratio of at least 3.5 is between that which is typically employed for conventional long-range aircraft and that which is typically employed for conventional ground-effect aircraft.

Furthermore, Whitener '455 is not directed to an altitude control system for controlling the altitude of the aircraft when the aircraft is flown in ground effect, wherein the altitude control system is operable in an active mode for maintaining the aircraft at an approximate, predetermined altitude above a surface over which the aircraft is traveling. Whitener '455 discloses fans that draw air from the upper portion of the wing and blow it beneath the wing to increase the differential in pressure between the upper and lower surfaces of the wing that increases the wing lift (Col. 8, lines 12-26). However, the fans are not equivalent to the altitude control system of the claimed invention. Moreover, Whitener '455 does not appear to reference an altitude control system operable in an active mode for maintaining the aircraft at an approximate, predetermined altitude above a surface over which the aircraft is traveling.

Furthermore, Applicant notes that Claim 1, inter alia, has been amended to recite “substantially the entire length of the central storage cavity”. Whitener is not directed to a plurality of independent and steerable landing gear coupled to the fuselage and operatively distributing the weight of the aircraft over substantially the entire length of the central storage cavity. The Examiner relies on Scherer '020 to show this feature. However, Applicant asserts that Scherer '020 is not directed to a plurality of independent and steerable landing gear coupled to the fuselage and operatively distributing the weight of the aircraft over substantially the entire length of the central storage cavity. Scherer '020 discloses an auxiliary landing gear as a steerable nose

gear comprising dual wheels mounted on an oleo shock strut, and a steerable staggered main landing gear comprising wheels trucks of four wheels each mounted on two tandem axles to the lower ends of the four respective conventional oleo shock struts (Col. 3, lines 3-12 and Figure 1). The landing gears of Scherer '020 include gears located on different areas of the aircraft, such as the wing and the nose. In contrast, as claimed and as shown in Figure 1 of the present invention, the steerable land gear are distributed over substantially the entire length of the central storage cavity.

The Examiner asserts that although Whitener '455 fails to cite specific values for the length, height and width of the fuselage or the length of the wingspan, that it would have been obvious to determine these numerical values, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. Applicant has considered the remarks suggested by the Examiner. However, Applicant submits that when well-known ground-effect aircrafts are scaled up in size, several problems occur. For instance, an increase in both the weight of the aircraft and its parasite drag reduces the aircraft's capacity and operational efficiency. Similarly, increasing the size of a conventional aircraft that is configured to take off and land on conventional land-based runways is impractical. All the elements together claimed in the present invention address these problems. Applicant submits that the specific values of length and height of the fuselage and wing are significantly important along with the other claimed elements in order to provide such a large aircraft that accounts for several the problems that occur when an aircraft is increased as large as claimed in the present invention.

Therefore, it is respectfully submitted that independent Claim 1, along with claims depending therefrom, are now patentable and in condition for allowance. Reconsideration and withdrawal of this rejection is requested.

Claims 4-6 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitener (U.S. Pat. No. 4,725,020) in view of Scherer (U.S. Pat. No. 3,488,020) and further in view of Henry (U.S. Pat. No. 2,010,817). Since Claims 4-6 and 25 depend from Claim 1, which is believed to be patentable and in condition for allowance, reconsideration and withdrawal of this rejection is requested.

Claims 7-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitener (U.S. Pat. No. 4,725,020) in view of Scherer (U.S. Pat. No. 3,488,020) and further in view of Blum (U.S. Pat. No. 6,029,929). Since Claims 7-13 depend from Claim 1, which is believed to be patentable and in condition for allowance, reconsideration and withdrawal of this rejection is requested.

Claims 14-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitener (U.S. Pat. No. 4,725,020) in view of Scherer (U.S. Pat. No. 3,488,020) and further in view of Gevers (U.S. Pat. No. 5,850,990). Since Claims 14-19 depend from Claim 1, which is believed to be patentable and in condition for allowance, reconsideration and withdrawal of this rejection is requested.

Claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitener (U.S. Pat. No. 4,725,020) in view of Scherer (U.S. Pat. No. 3,488,020) and further in view of Spence (U.S. Pat. No. 3,653,615). Since Claim 23 depend from Claim 1, which is believed to be patentable and in condition for allowance, reconsideration and withdrawal of this rejection is requested.

Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitener (U.S. Pat. No. 4,725,020) in view of Scherer (U.S. Pat. No. 3,488,020) and further in view of Roessner et al. (U.S. Pat. No. 5,759,005). Since Claim 24 depends from Claim 1, which is believed to be patentable and in condition for allowance, reconsideration and withdrawal of this rejection is requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: July 10, 2003

By: 

Mark D. Elchuk, Reg. No. 33,686

Stephen T. Olson, Reg. No. 36,626

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

MDE:MCC:ca

B